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(54) BUILDING BLOCK

(71) SOIL FILTERS AUSTRALIA PTY. LTD.

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(56) 13150-66 406387 E02B 3/14  
US 3324619

(57) Claim

1. A concrete block of generally elongate cuboidal shape having on two respective parallel faces thereof projections and recesses capable of matingly engaging with the recesses and projections of other such blocks, wherein the projections and recesses are dimensioned such as to permit substantial movement of two such blocks with respect to one another in the direction of the elongation of each block, when in such mating engagement.

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This invention relates to blocks.

In a particular aspect this invention relates to concrete blocks which can be used to line waterways such as spillways, drains, culverts, channels and can be used on embankments such as river embankments and on seashore. Such blocks can protect the underlying substrate from water erosion or be useful as ramps such as boat ramps.

In the specification of Australian patent application no. AU-A-67476/81, certain blocks and mats have been described. However, the mat described therein has limited flexibility. In some instances that limited flexibility is very desirable but in other instances greater flexibility is required.

Accordingly, in one aspect this invention relates to blocks and mates which enable certain flexing.

The present invention provides a concrete block of generally elongate cuboidal shape having on two respective parallel faces thereof projections and recesses capable of matingly engaging with the recesses and projections of other such blocks, wherein the projections and recesses are dimensioned such as to permit substantial movement of two such blocks with respect to one another in the direction of the elongation of each block, when in such mating engagement.

Preferably, there are two such projections on one of said faces and two such recesses on the other of said faces.

Preferably each such projection is of frusto-conical shape with the widest part thereof adjacent the respective one of said faces, the recesses are preferably



elongate laterally of the block.

In a preferred aspect the recesses are oval shaped  
~~in cross-section.~~

The blocks may have spacers to space them a  
5 predetermined distance apart.

Preferably the block has at least one aperture  
extending through and between said faces to enable cable  
or rod to be passed therethrough to interconnect a number  
of such blocks when in staggered relation with such  
10 projections of one block engaged with such recesses of  
two other such blocks.

Preferably, two edges of the block are  
chamfered. If those chamfered edges are presented to moving  
water they will interrupt flow whereas if they are placed  
15 down they will not interrupt flow to the same extent.

The block can be conveniently made by casting.

Large mats can be made up from the blocks and  
those mats can be laid where required. The projections  
and recesses will allow flexing of the mats about the  
20 axes of the projections and recesses but will restrict  
flexing of the mats transverse to those axes. Thus,  
differential settlement of the blocks at the interface  
between two blocks should be restricted.

The present invention will now be illustrated  
25 with reference to the accompanying drawings in which:

Figure 1 is one perspective view of a block,

Figure 2 is another perspective view of the  
block, and

Figure 3 is a plan view of a mat of blocks.

The block shown in Figures 1 and 2 is generally rectangular in form and has rectangular faces 1, 2, 3, 4, 5 and 6. Faces 5 and 6 are inclined faces. In addition, the block has two parallel and opposite faces 7 and 8.

5 Face 1 has two frusto-conical projections 9 and 10 thereon and face 8 has two recesses 11 and 12 therein. The recesses are oval shaped in cross-section.

The block also has spacers 31 and 32 to space the block a predetermined distance from another such block.

10 In use, a mat of such blocks can be formed by engaging the projections 9 and 10 of one block in the recesses 12 and 11 of two other blocks, by engaging the projections 10 and 9 of two further blocks in the recesses 11 and 12 of said one block and by repeating the above  
15 with further blocks.

If desired cables or rods 16 may be passed through the holes 15 to stabilize the mat.

The mat so formed will have many uses such as in paving and road making but will find particular application  
20 in lining waterways and on embankments.

It is particularly to be noted that the inter-engagement of the blocks will allow flexing of the mat about the axes 21 and 22. Further, lateral movement in the direction of arrow 25 will be permitted due to the shape of  
25 the recesses 11 and 12. Further, some flexing, although limited, will be possible about axes 23 and 24.

The fact that the projections 9 and 10 are able to move in the recesses 11 and 12 will enable mats to

conform to complex curves better than Applicant's previously proposed blocks.

~~Modifications and adaptations may be made to the~~  
above described without departing from the spirit and scope  
5 of this invention which includes every novel feature and  
~~combination of features disclosed herein.~~

The claims form part of the disclosure of this specification.

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The claims defining the invention are as follows:

1. A concrete block of generally elongate cuboidal shape having on two respective parallel faces thereof projections and recesses capable of matingly engaging with the recesses and projections of other such blocks, wherein the projections and recesses are dimensioned such as to permit substantial movement of two such blocks with respect to one another in the direction of the elongation of each block, when in such mating engagement.
2. A concrete block as claimed in claim 1, wherein there are two such projections on one of said faces and two such recesses on the other of said faces.
3. A concrete block as claimed in claim 1 or claim 2, wherein each such projection is of frusto-conical shape with the widest part thereof adjacent the respective one of said faces.
4. A concrete block as claimed in any preceding claim, wherein the recesses are elongate.
5. A concrete block as claimed in any preceding claim, wherein the recesses are oval shaped.
6. A concrete block as claimed in any preceding claim, wherein the block has a spacer to space two such blocks a predetermined distance apart when in such mating engagement.
7. A concrete block as claimed in any preceding claim, including at least one aperture extending through and between said faces to enable cable or rod to be passed therethrough to interconnect a number of such blocks when in staggered relation with such projections of one block engaged with such recesses of two other such blocks.
8. A concrete block as claimed in any preceding claim wherein two edges of the block are chamfered.
9. A concrete block substantially as hereinbefore described with reference to Figures 1 and 2 of the accompanying drawings.
10. A mat formed from a plurality of blocks as claimed in any preceding claim.



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11. A mat substantially as herein described with reference to the accompanying drawings.

DATED THIS 15TH DAY OF OCTOBER 1985

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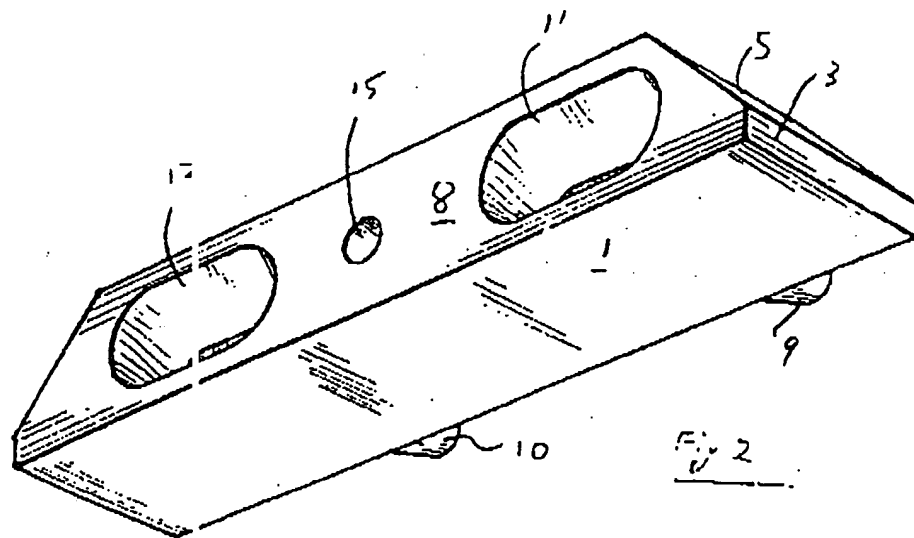
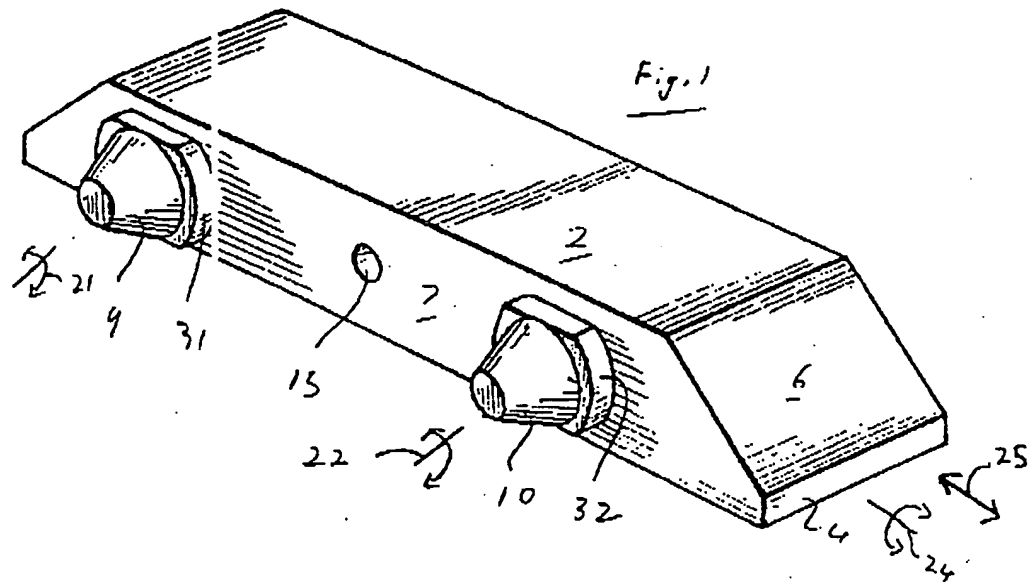
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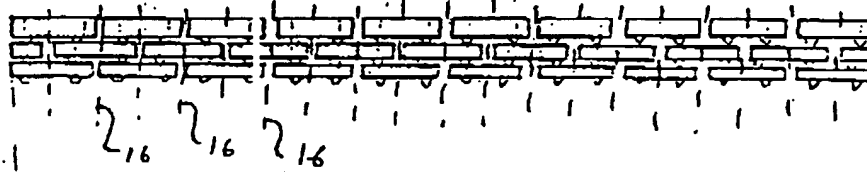
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